

Notice of Allowability

Application No.

10/815,041

Examiner

Irakli Kiknadze

Applicant(s)

DEURINGER ET AL.

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 1-8.
3. ☒ The drawings filed on 29 July 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 7/29/2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Allowable Subject Matter

1. Claims 1-8 are allowed.
2. The following is an examiner's statement of reasons for allowance:

5/31/05
Claims 1-6 are allowed because the prior art fails to teach or make obvious a method for detecting pressure in ^{an x-ray tube having a heated cathode} ~~heated with a heater current in an x-ray tube~~, comprising the steps of: determining a quantity selected from the group consisting of a difference between the heater current and a tube current, a temporal change of the heater current, and a temporal change of the tube current; comparing the quantity with a predetermined calibration values to obtain a comparison result; and from the comparison result, generating a value representing pressure in the x-ray tube as claimed in claim 1. Claims 2-6 are allowed by virtue of their dependence.

Claim 7 is allowed because the prior art fails to teach or make obvious a method for detecting pressure in an x-ray tube having a cathode heated with a heater current, comprising the steps of: determining a quantity selected from the group consisting of a difference between a heater voltage and a x-ray tube voltage, a temporal change of the heater voltage, and a temporal change of the x-ray tube voltage; comparing the quantity with a predetermined calibration values to obtain a comparison result; and from the comparison result, generating a value representing pressure in the x-ray tube as claimed.

Claim 8 is allowed because the prior art fails to teach or make obvious a method for detecting pressure in an x-ray tube having a cathode heated with a heater current, comprising the steps of: determining a quantity selected from the group consisting of a difference between the heater current and the tube current, a temporal change of the heater current, and a temporal change of the tube current; comparing the quantity with a predetermined calibration values to obtain a comparison result, and using the comparison result as a representation of pressure in the x-ray tube as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Carmel (US Patent 4,379,977), Elliott et al. (US Patent 4,853,946) and Miller et al. (US Patent 6,192,106 B1) teach monitoring gas pressure in the x-ray tube with getter, arc rate, operating cycles, exposure count, anode and cathode current and voltage, temperature, anode and cathode voltage balance but fail to teach determining a quantity selected from the group consisting of a difference between the cathode heater current/voltage and the tube current/voltage, a temporal change of the cathode heater current/voltage, and a temporal change of the tube current/voltage; comparing the quantity with a predetermined calibration values to

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obtain a comparison result, and using the comparison result as a representation of pressure in the x-ray tube.


4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irakli Kiknadze whose telephone number is 571-272-2493. The examiner can normally be reached on 9:00- 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on 571-272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Irakli Kiknadze
May 25, 2005

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EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER